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Patent

Attorney's Docket No. 019952-167

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of )  
Katsuhiro SHIRAKAWA et al. ) Group Art Unit: Unassigned  
Application No.: Unassigned ) Examiner: Unassigned  
Filed: September 21, 2001 )  
For: IMPLANTABLE ELECTRODE )  
LEAD AND ... )

**PRELIMINARY AMENDMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to examination of the above-captioned patent application, kindly enter the following amendment.

**IN THE SPECIFICATION:**

*Kindly replace the paragraph beginning at page 27, line 26, with the following:*

-- The voltage at this time, i.e., a pacing voltage  $V_p$ , sets the connector pin to -2.8 [V] with reference to the connector ring 2. The current flowing at this time, i.e., a pacing current  $I_p$ , flows via COM 61 → connector ring 2 → ring electrode 3 → tip electrode 4 → connector pin 1 → C58 → FET 51 → R7 → VSS. --

**IN THE CLAIMS:**

*Kindly replace Claims 3, 5-9 and 15-16, and add new Claims 3, 5-9, 15-16, as follows.*

3. (Amended) The implantable electrode lead according to claim 1, characterized in that each of said plurality of wires is a wire with a single layer made of at least one metal material, or a composite wire with a plurality of different single layers made of at least one metal material.

5. (Amended) The implantable electrode lead according to claim 1, characterized in that said plurality of wires are made of have different materials.

6. (Amended) The implantable electrode lead according to claim 1, characterized in that among said plurality of wires, a first wire has an electrical resistivity of not more than  $5 \mu\Omega\cdot\text{cm}$  and a second wire has an electrical resistivity of not less than  $5 \mu\Omega\cdot\text{cm}$ .

7. (Amended) The implantable electrode lead according to claim 3, characterized in that said composite wire has a first single layer made of a metal material or alloy material with an electrical resistivity of not more than  $5 \mu\Omega\cdot\text{cm}$  and a second single layer made of a metal material or alloy material with an electrical resistivity of not less than  $5 \mu\Omega\cdot\text{cm}$ .

8. (Amended) The implantable electrode lead according to claim 3, characterized in that said first and second single layers of said composite wire contain silver and a cobalt alloy, respectively.

9. (Amended) The implantable electrode lead according to claim 1, characterized in that said lead body comprises a helical parallel coil of said plurality of wires insulated from each other.

15. (Amended) The implantable medical instrument according to claim 11, characterized in that said implantable medical instrument further has storage means, and when a measurement result obtained by said measuring means satisfies a predetermined condition, the measurement result is recorded in said storage means.

16. (Amended) The implantable medical instrument according to claim 10, characterized in that said lead body comprises a helical parallel coil to said plurality of wires insulated from each other.

**REMARKS**

By way of the foregoing amendment to the specification has been incorporated to improve the form of the application. No new matter has been introduced.

Early and favorable consideration with respect to this application is respectfully requested.

These changes have been made in accordance with 37 C.F.R. § 1.121 as amended on November 7, 2000. Marked-up versions of Claims 3, 5-9 and 15-16 indicating the changes are enclosed.

Should any questions arise in connection with this application, the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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**Marked-up Copy**

The voltage at this time, i.e., a pacing voltage  $V_p$ , sets the connector pin to -2.8 [V] with reference to the connector ring 2. The current flowing at this time, i.e., a pacing current  $I_p$ , flows via COM 61 → connector ring 2 → ring electrode 3 → tip electrode 4 → connector pin 1 → C58 [Co] → FET 51 → R7 → VSS.

Attachment to Preliminary Amendment dated September 21, 2001

**Marked-up Claims**

3. (Amended) The implantable electrode lead according to claim 1[or 2], characterized in that each of said plurality of wires is a wire with a single layer made of at least one metal material, or a composite wire with a plurality of different single layers made of at least one metal material.

5. (Amended) The implantable electrode lead according to claim 1[or 2], characterized in that said plurality of wires are made of have different materials.

6. (Amended) The implantable electrode lead according to claim 1[to 5], characterized in that among said plurality of wires, a first wire has an electrical resistivity of not more than  $5 \mu\Omega\cdot\text{cm}$  and a second wire has an electrical resistivity of not less than  $5 \mu\Omega\cdot\text{cm}$ .

7. (Amended) The implantable electrode lead according to claim 3[or 4], characterized in that said composite wire has a first single layer made of a metal material or alloy material with an electrical resistivity of not more than  $5 \mu\Omega\cdot\text{cm}$  and a second single layer made of a metal material or alloy material with an electrical resistivity of not less than  $5 \mu\Omega\cdot\text{cm}$ .

8. (Amended) The implantable electrode lead according to claim 3[4, and 7], characterized in that said first and second single layers of said composite wire contain silver and a cobalt alloy, respectively.

Attachment to Preliminary Amendment dated September 21, 2001

**Marked-up Claims**

9. (Amended) The implantable electrode lead according to claim 1[to 8], characterized in that said lead body comprises a helical parallel coil of said plurality of wires insulated from each other.

15. (Amended) The implantable medical instrument according to claim 11[or 14], characterized in that said implantable medical instrument further has storage means, and when a measurement result obtained by said measuring means satisfies a predetermined condition, the measurement result is recorded in said storage means.

16. (Amended) The implantable medical instrument according to claim 10[to 15], characterized in that said lead body comprises a helical parallel coil to said plurality of wires insulated from each other.